Grid-Connected PV Capacity (kW) Installed in California

California Energy Commission*	25,954	
California Public Utilities Commission*	11,817	
Sacramento Municipal Utility District	11,374	
Los Angeles Department of Water and Power	7,525	
Pre-1998	1,918	
City of Riverside Public Utilities	379	
City of Anaheim Public Utilities	275	
City of Palo Alto Utilities	245	
City of Roseville Electric	115	
City of Pasadena Water and Power	84	
City of Santa Clara Electric Utility	54	
City of Glendale Water and Electric	19	
Pacific Power	19	
City of Ukiah Public Utilities	14	
City of Burbank Water and Power	7	
City of Alameda Power and Telecom	5	
City of Lodi Electric Utility	4	
City of Redding Electric Utility	2	
TOTAL	59,807 kW	
		_

59.81 MW

This analysis tracks the capacity of grid-connected PV installations in California from 1981 until the present. The vast majority of the early installations can be attributed to the work done by the Sacramento Municipal Utility District (SMUD). Beginning in 1998, the Energy Commission's Emerging Renewables Program began offering rebates for grid-connected "emerging" systems in the service territories of the three largest Investor Owned Utilities (IOUs) - PG&E, SCE and SDG&E. In 2001, the Public Utilities Commission began the Self-Generation Incentive Program. The "Self-Gen" Program also offers rebates, but the program is administered by the utilities (PG&E, SCE, SDG&E and SCGC) directly. The Los Angeles Department of Water and Power (LADWP), as well as many of the smaller utilities, offer their own incentive programs.

Updated as of 12/31/2003

^{*} The Energy Commission's Emerging Renewables Program is open to the ratepayers of PG&E, SCE and SDG&E. The Public Utilities Commission's Self-Generation Incentive Program is open to the ratepayers of PG&E, SCE, SDG&E and the SCGC.

Grid-Connected PV Capacity Installed in California

YEAR

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total	
Program																									
Sacramento Municipal Utility District	0	0	0	1,230	0	1,230	0	0	0	0	0	23	495	675	561	421	405	236	1,220	1,446	1,679	1,390	363	11,374	
California Energy Commission*	0	0	0	0	0	0	0	0	0	0	0	0	.00	0.0	0		.00	181	619	726	4.034	8,110	12.283	25,954	
Pacific Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	360	487	2,041	4,951	7,416	,	15,316
Southern California Edison	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120	250	133	1,118	2,117	3,167		6,905
San Diego Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	106	866	1,042	1,675		3,700
Bear Valley Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	24		33
Los Angeles Department of Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	432	589	2,573	3,829	7,525	
California Public Utilities Commission*																					0	1,889	9,928	11,817	
Pacific Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,671	4,208		5,879
Southern California Edison	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	2,649		2,763
San Diego Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	1,971		2,045
***Southern California Gas Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	1,100		1,130
Pre-1998	37	38	11	12	15	63	-	4	59	15	17	477	806	(336)	(250)	378	110	464	-	-	-	-	-	1,918	
City of Palo Alto Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	16	101	74	38	245	
City of Santa Clara Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	34	14	4	54	
City of Pasadena Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84	0	84	
City of Burbank Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	3	0	7	
City of Anaheim Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	141	84	50	275	
City of Redding Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	
City of Glendale Water and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	19	
City of Riverside Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150	15	214	379	
City of Roseville Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	44	62	115	
Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	9	0	19	
City of Alameda Power and Telecom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	5	
City of Ukiah Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	8	14	
City of Lodi Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	
TOTAL	37	38	11	1.242	15	1.293	0	4	59	15	17	500	1,301	339	311	799	515	885	1.970	2.622	6.742	14.316	26.778	59,807	
Cumulative Total	37	75	86	1,328	1,342	2,635	2,635	2,639	2,698	2,713	2,730	3,230	4,530	4,869	5,180	5,980	6,494	7,379	9,349	11,971	18,713	33,029	59,807	,	

NOTES

* The Energy Commission's Emerging Renewables Program is open to the ratepayers of PG&E, SCE and SDG&E. The Public Utilities Commission's Self-Generation Incentive Program is open to the ratepayers of PG&E, SCE, SDG&E and the SCGC.

** The 2003 data is current as of 12/31/2003.

*** The Southern California Gas Company (SCGC) has paid on over 4 MW of PV. However, the Gas Company has overlapping territory with several electric utilities that are reporting on the same projects. For projects that have participated in multiple programs with the Gas Company, the totals will be reported by electric utilities. Projects that have only participated in the Gas Company rebate program will be reported under the Gas Company header.

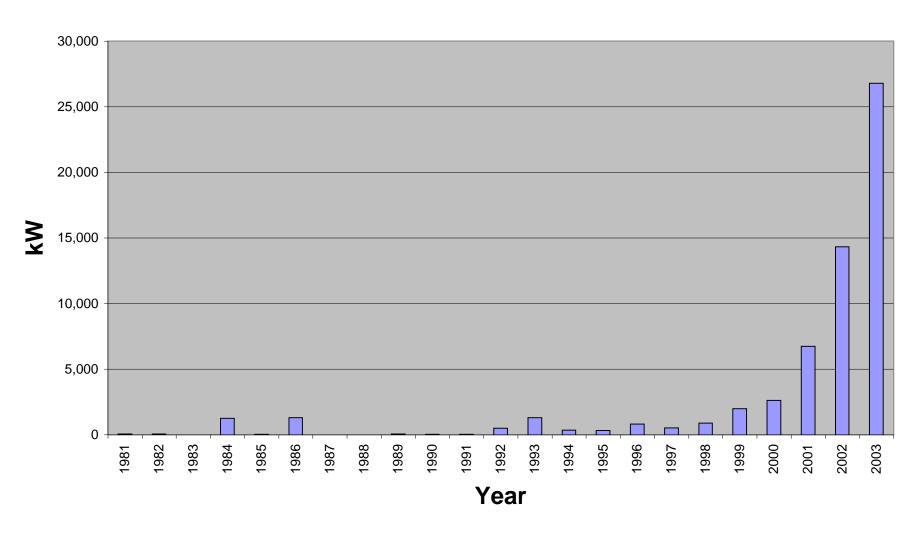
Pre-1998 Row: These numbers were derived by subtracting the total kW installed by SMUD each year from the totals contained in Appendix A of the 2001 EPRI Report titled "California Renewable Technology Market and Benefits Assessment." In some years, there is a negative number. This obviously did not happen. To be consistent with the EPRI data, it was decided to keep the negative number rather than make more assumptions. Similarly, when determining the number of systems by year, the results showed negative numbers. Again, to be consistent with the EPRI data, it was decided to keep the negative number rather than make more assumptions.

In some cases, the 2002 totals for the smaller utilities reflect the cumulative total of all PV installed, not just the 2002 total.

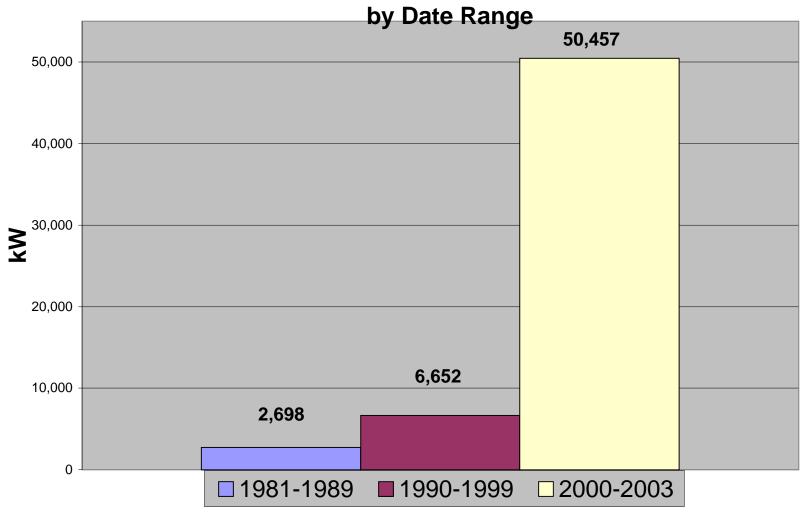
Many of the utilities contacted had, at one time, a solar rebate program. It is possible other utilities have rebate programs, or other utilities may have installed PV, but those are not accounted for in this summary.

The Energy Commission numbers do not include any Publicly Owned Electric Utility installed systems. The Energy Commission has paid for 334 kW of these systems. However, to avoid double counting, these numbers were subtracted from the yearly totals.

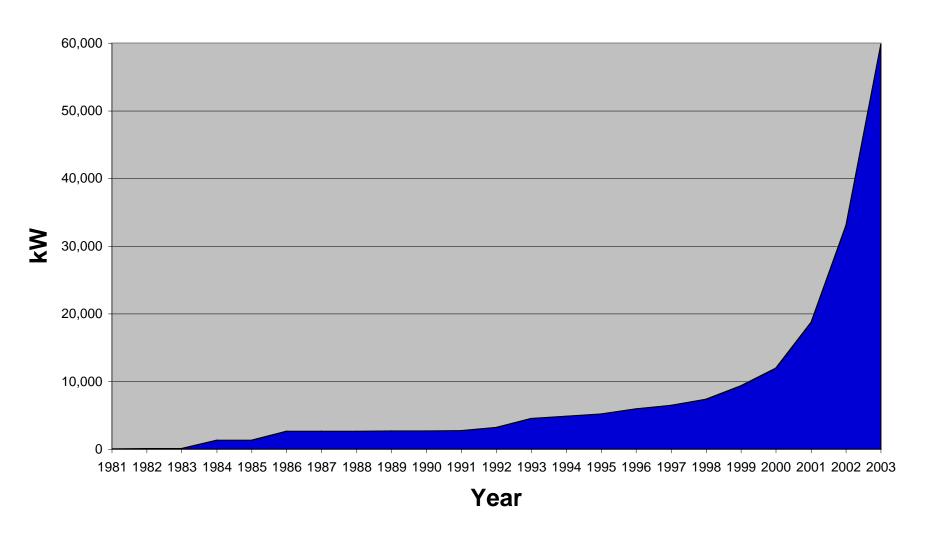
Grid-Connected PV Capacity Installed in California By Year



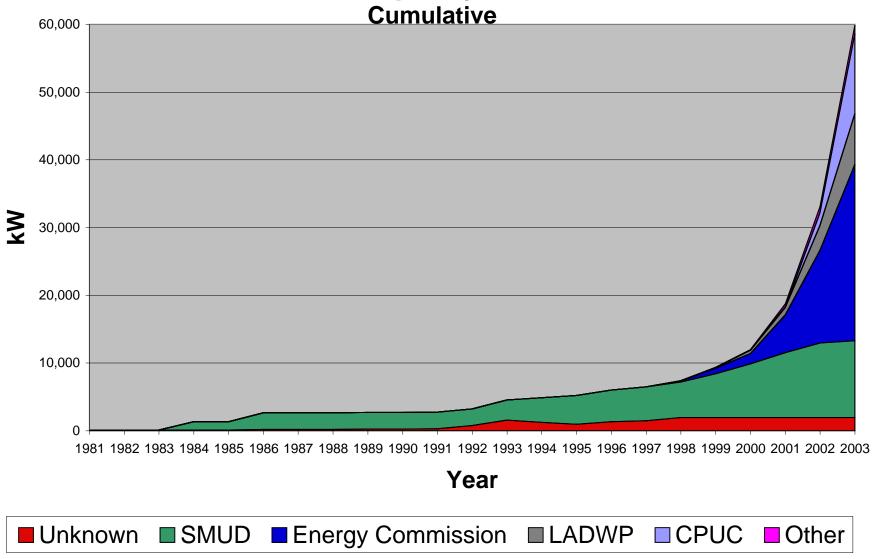
Grid-Connected PV Capacity Installed in California



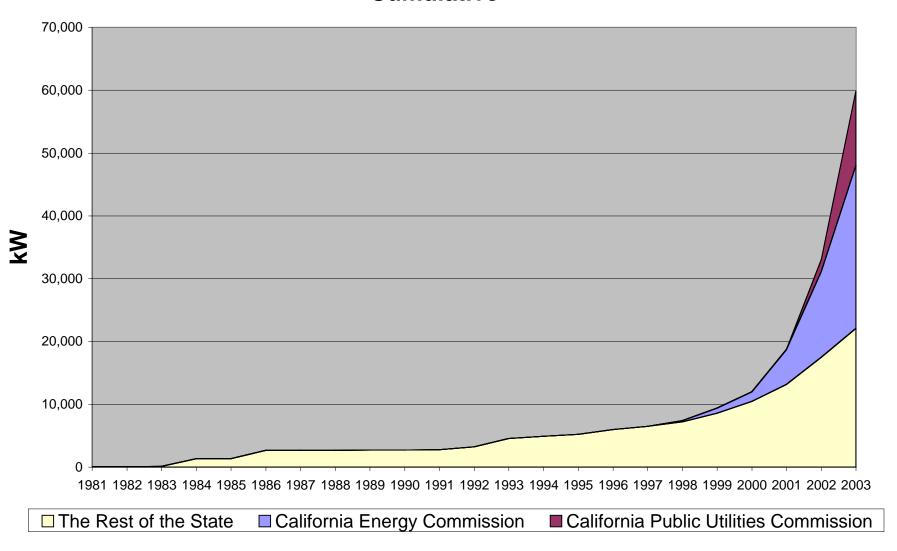
Grid-Connected PV Capacity Installed in California Cumulative



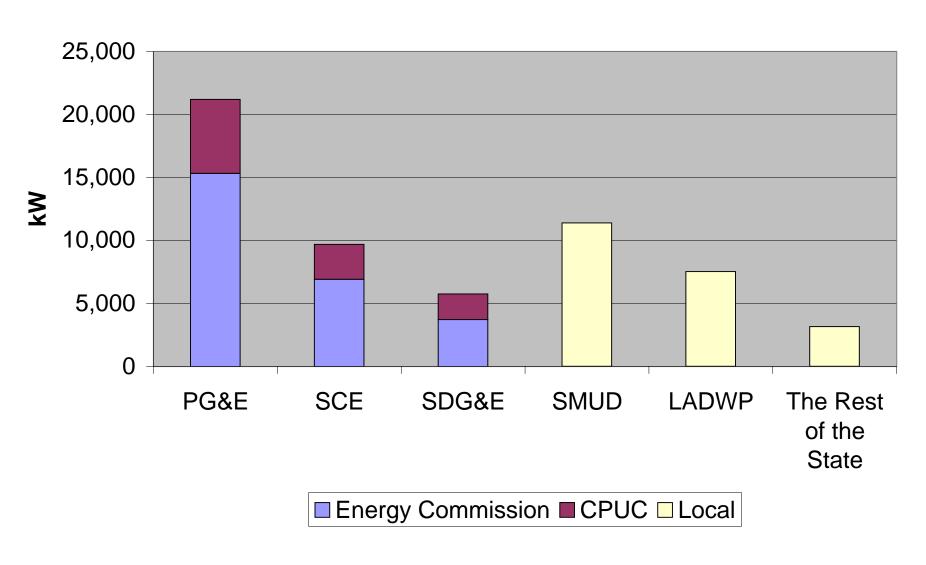
Grid-Connected PV Capacity Installed in California



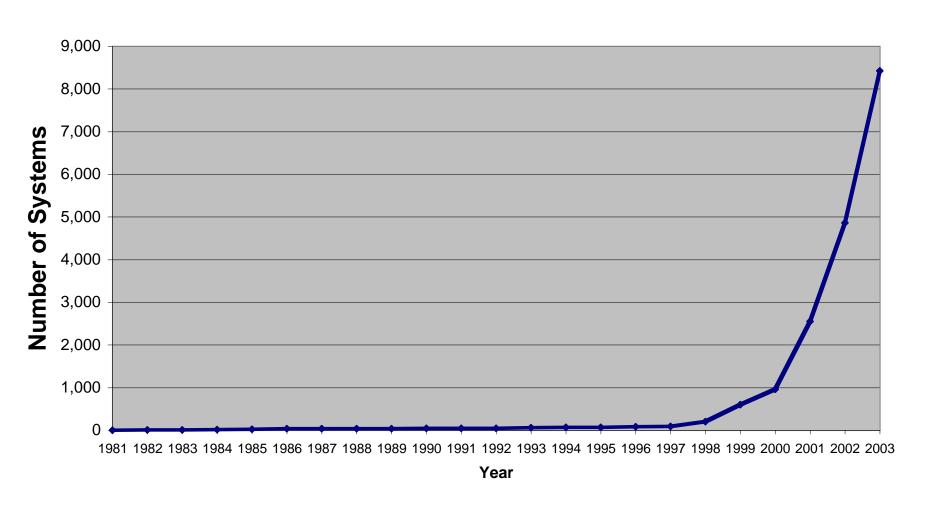
Grid-Connected PV Capacity Installed in California Cumulative



Grid-Connected PV Capacity Installed in California by Service Territory



Number of Grid-Connected PV Systems Installed In California Cumulative



Grid-Connected PV Program Contacts in California

Program	Contact	Telephone	Email							
California Energy Commission*	Dale Trenschel	916-653-2834	Dtrensch@energy.state.ca.us							
			•							
California Public Utilities										
Commission*	John Galloway	415-703-2565	jhg@cpuc.ca.gov							
	Dean Heatherington	415-973-2362	selfgen@pge.com							
	Howard Green	626-302-8436	greenh@sce.com							
	Mike Magee	858-244-1177	selfgen@sdenergy.org							
SCGC	Marshall Kiyohiro	213-244-5619	selfgeneration@socalgas.com							
	T	T								
Sacramento Municipal Utility District	Stephen Frantz	916-732-5107	SFrantz@smud.org							
Los Angeles Department of Water and Power	Thomas Honles	213-367-3151	thomas.honles@ladwp.com							
City of Palo Alto Utilities	Lindsay Joye	650-329-2241	pvpartners@cityofpaloalto.org							
ong or and rate dumino	Lindbay boye		productions only or paroditorory							
City of Santa Clara Electric Utility	Leslie Brown	408-244-SAVE	lbrown@ci.santa-clara.ca.us							
City of Pasadena Water and Power	Mauricio Mejia	626-744-6970	mmejia@ci.pasadena.ca.us							
City of Burbank Water and Power	John Joyce	818-238-3653	jjoyce@ci.burbank.ca.us							
City of Anaheim Public Utilities	Dina Predisik	714-765-4182	dpredisik@anaheim.net							
City of Redding Electric Utility	Pam Brady-Koss	530-339-7215	pbradykoss@reddingelectricutility.com							
City of Glendale Water and Electric	Ned Bassin	818-548-2748	nbassin@ci.glendale.ca.us							
City of Riverside Public Utilities	Atoya Mendez	909-826-5790	amendez@ci.riverside.ca.us							
City of Roseville Electric	Pat Morrison	916-774-5624	pmorrison@roseville.ca.us							
Pacific Power	Michael Reid	503-813-6052	michael.reid@pacificorp.com							
	•	•								
City of Alameda Power and Telecom	Don Rushton	510-748-3946	drushton@alamedapt.com							
City of Ukiah Public Utilities	Cindy Sauers	707-463-6295	cindys@cityofukiah.com							
City of Lodi Electric Utility	Rob Lechner	209-333-6800 x 2583	rlechner@lodielectric.com							

Grid-Connected PV Program Alternate Contacts in California

Program Contact Telephone **Email** California Energy Commission* Todd Lieberg 916-654-4059 tlieberg@energy.state.ca.us 415-703-2565 California Public Utilities Commission* John Galloway jhg@cpuc.ca.gov 415-973-5187 Sara Burmingham sebb@pge.com PG&E Mei Wong 626-302-1746 Mei.Wong@sce.com SCE Scott Anders 858-244-1177 san@sdenergy.org SDG&E Tony Prietto 213-244-3679 aprieto@semprautilities.com SCGC Stephen Frantz **Sacramento Municipal Utility District** 916-732-5107 SFrantz@smud.org Los Angeles Department of Water and Power Darryl Gordon 213-367-3250 dgord1@ladwp.com City of Palo Alto Utilities Lindsay Joye 650-329-2241 pvpartners@cityofpaloalto.org City of Santa Clara Electric Utility 408-244-SAVE lbrown@ci.santa-clara.ca.us Leslie Brown City of Pasadena Water and Power Mauricio Mejia 626-744-6970 mmejia@ci.pasadena.ca.us City of Burbank Water and Power 818-238-3653 John Joyce jjoyce@ci.burbank.ca.us City of Anaheim Public Utilities Dina Predisik 714-765-4182 dpredisik@anaheim.net City of Redding Electric Utility Pam Brady-Koss 530-339-7215 pbradykoss@reddingelectricutility.com City of Glendale Water and Electric Ned Bassin 818-548-2748 nbassin@ci.glendale.ca.us **City of Riverside Public Utilities** 909-826-5790 Atoya Mendez amendez@ci.riverside.ca.us City of Roseville Electric 916-774-5624 Pat Morrison pmorrison@roseville.ca.us Pacific Power 503-813-6052 Michael Reid michael.reid@pacificorp.com City of Alameda Power and Telecom 510-748-3946 Don Rushton drushton@alamedapt.com City of Ukiah Public Utilities 707-463-6295 Cindy Sauers cindys@cityofukiah.com 209-333-6800 x 2583 City of Lodi Electric Utility Rob Lechner rlechner@lodielectric.com

Grid-Connected PV Capacity in California

Graphing Data

YEAR

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total	
Program																									
Sacramento Municipal Utility District	0	0	0	1,230	0	1,230	0	0	0	0	0	23	495	675	561	421	405	236	1,220	1,446	1,679	1,390	363	11,374	
California Energy Commission*	0	Ö	Ö	0	Ö	0	ő	ő	Ö	Ö	ő	0	0	0	0	0	0	181	619	726	4,034	8,110	12,283	25,954	
Pacific Gas and Electric		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	360	487	2,041	4,951	7,416		15,316
Southern California Edison San Diego Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120	250 10	133 106	1,118 866	2,117	3,167 1,675		6,905 3,700
Bear Valley Electric		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106	10	1,042	1,675		3,700
Los Angeles Department of Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	432	589	2,573	3,829	7,525	
California Public Utilities Commission*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,889	9,928	11,817	
Pacific Gas and Electric Southern California Edison	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,671 114	4,208 2,649		5,879 2,763
San Diego Gas and Electric		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	1,971		2,763
***Southern California Gas Company	0	Ö	Ö	0	0	0	ő	ő	0	Ö	ő	Ö	Ö	Ö	ő	Ö	ő	0	0	0	Ö	30	1,100		1,130
Pre-1998	37	38	11	12	15	63	0	4	59	15	17	477	806	-336	-250	378	110	464	0	0	0	0	0	1,918	
City of Palo Alto Utilities City of Santa Clara Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16 0	16	101 34	74 14	38	245 54	
City of Pasadena Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	14 84	0	54 84	
City of Burbank Water and Power	0	0	Ö	0	0	0	ő	Ö	0	Ö	Ö	Ö	Ö	Ö	ő	Ö	Ö	0	4	0	Ö	3	0	7	
City of Anaheim Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	141	84	50	275	
City of Redding Electric Utility City of Glendale Water and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	
City of Riverside Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 150	19 15	214	19 379	
City of Roseville Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ő	ő	0	0	9	0	0	44	62	115	
Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	9	0	19	
City of Alameda Power and Telecom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	5	
City of Ukiah Public Utilities City of Lodi Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	8	14 4	
	U	U	J	J	J	U	U	U	U	U	J	U	U	U	J	U	U	U	U	J	4	U	-	4	
Sacramento Municipal Utility District	0	0	0	1,230	1,230	2,460	2,460	2,460	2,460	2,460	2,460	2,483	2,978	3,653	4,214	4,635	5,040	5,276	6,496	7,942	9,621	11,011	11,374		
California Energy Commission*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	181	800	1,526	5,560	13,671	25,954		
Los Angeles Department of Water and Power California Public Utilities Commission*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	534 0	1,123	3,696 1,889	7,525 11,817		
Pacific Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,671	5,879		
Southern California Edison	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	2,763		
San Diego Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	2,045		
***Southern California Gas Company Pre-1998	0 37	0 75	0 86	0 98	0 112	0 175	0 175	0 179	0 238	0 253	0 270	0 747	0 1,552	0 1.216	0 966	0 1.345	0 1.454	0 1,918	0 1.918	0 1,918	0 1.918	30 1.918	1,130 1,918		
City of Palo Alto Utilities	0	0	0	0	0	0	1/3	0	230	233	0	747	0	0	0	1,343	0	0	1,516	32	133	207	245		
City of Santa Clara Electric Utility	ō	ō	Ō	Ō	ō	Ö	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	Ö	0	2	36	50	54		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84	84		
City of Pasadena Water and Power	-	-	-	-			Ω	0	0	0	0	0	0	0	0	0	0								
City of Burbank Water and Power	0	0	0	0	0	0			ő	•			0	0	ō	Õ		0	4	4	4	7	7		
	-	-	-	-	0 0 0	0 0 0	0	0	0	0	0	0	0	0	0	0	0	0	4 0 0	4 0 0	4 141 0	7 225 2	7 275 2		
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utility City of Glendale Water and Electric	0	0	0	0	ő	Ö	ő	Ö		ő	ő	Ö	-		0		Ö	ő	ó	ó	141 0 0	2 19	275 2 19		
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utility City of Glendale Water and Electric City of Sieroide Public Utilities	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0	0	0 0 0 0	0 0 0 0	0 0	0 0 0	0 0 0	0 0 0	0 0	0 0	0 0	0	0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	141 0 0 150	2 19 165	275 2 19 379		
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utility City of Glendale Water and Electric City of Riverside Public Utilities City of Roseville Electric	0 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0 0	141 0 0 150 9	2 19 165 53	275 2 19 379 115									
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utility City of Glendale Water and Electric City of Riverside Public Utilities City of Roseville Electric Pacific Power Pacific Power	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0	0 0	0 0 0 0	0 0 0 0 0	0 0	0 0 0	0 0 0	0 0 0	0 0	0 0 0 0 0	0 0 0 0	0	0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	141 0 0 150	2 19 165	275 2 19 379		
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utility City of Glendale Water and Electric City of Riverside Public Utilities City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Manh Public Utilities	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0	0 0 0	0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 9	0 0 0 0 9	141 0 0 150 9	2 19 165 53 19	275 2 19 379 115 19		
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utility City of Clendale Water and Electric City of Roseville Electric City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Ukiah Public Utilities City of Lender Electric City of Lender Electric Utilities City of Lot Electric Utilities City of Lot Electric Utilities	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 9 0 4	0 0 0 0 0 9 0 4	141 0 0 150 9 10 4 0	2 19 165 53 19 5 6 4	275 2 19 379 115 19 5 14		
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utility City of Glendale Water and Electric City of Riverside Public Utilities City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Manh Public Utilities	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 4	0 0 0 0 9 0 4	0 0 0 0 9 0 4	141 0 0 150 9 10 4	2 19 165 53 19 5	275 2 19 379 115 19		
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utility City of Reddand Electric Utility City of Reddand Water and Electric City of Roseville Electric City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Utah Public Utilities City of Utah Public Utilities City of Utah City of Utah City of Utah City of Utah City Total Other	0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 0 0 4	0 0 0 0 9 0 4 0 0 33	0 0 0 0 9 0 4 0 0 51	141 0 0 150 9 10 4 0 4 490	2 19 165 53 19 5 6 4	275 2 19 379 115 19 5 14 4 1,220	59,807	
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utility City of Glendale Water and Electric City of Roseville Electric City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Ukiah Public Utilities City of Lodi Electric Utility Total Other	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 4 0 0	0 0 0 0 9 0 4 0 0 33	0 0 0 0 9 0 4 0 0 51	141 0 0 150 9 10 4 0 4 490	2 19 165 53 19 5 6 4 845	275 2 19 379 115 19 5 14 4 1,220	59,807	
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utilities City of Glendale Water and Electric City of Roserside Public Utilities City of Roserside Public Utilities City of Roserside Public Utilities City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Utah Public Utilities City of Utah Public Utilities City of Utah Total TOTAL Cumulative Total	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 0 0 4	0 0 0 0 9 0 4 0 0 33	0 0 0 0 9 0 4 0 0 51	141 0 0 150 9 10 4 0 4 490	2 19 165 53 19 5 6 4 845	275 2 19 379 115 19 5 14 4 1,220	59,807	
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utilities City of Glendale Water and Electric City of Roseville Electric City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Lodi Public Utilities City of Lodi Electric Utility Total Other TOTAL Cumulative Total	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 0 0 4	0 0 0 0 9 0 4 0 0 33	0 0 0 0 9 0 4 0 0 51	141 0 0 150 9 10 4 0 4 490	2 19 165 53 19 5 6 4 845	275 2 19 379 115 19 5 14 4 1,220	59,807	
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utility City of Glendale Water and Electric City of Riverside Public Utilities City of Riverside Public Utilities City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Lodia Public Utilities City of Utah Public Utilities City of Utah Tublic Utilities Total Other TOTAL Cumulative Total	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 0 0 4	0 0 0 0 9 0 4 0 0 33	0 0 0 0 9 0 4 0 0 51	141 0 0 150 9 10 4 0 4 490	2 19 165 53 19 5 6 4 845	275 2 19 379 115 19 5 14 4 1,220	59,807	
City of Burbank Water and Power City of Anahem Public Utilities City of Redding Electric Utility City of Glendale Water and Electric City of Roseville Electric Pacific Power City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Loid Public Utilities City of Loid Electric Utility Total Other TOTAL Cumulative Total	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 0 0 4	0 0 0 0 9 0 4 0 0 33	0 0 0 0 9 0 4 0 0 51	141 0 0 150 9 10 4 0 4 490	2 19 165 53 19 5 6 4 845	275 2 19 379 115 19 5 14 4 1,220	59,807	
City of Burbank Water and Power City of Anahem Public Utilities City of Redding Electric Utility City of Glendale Water and Electric City of Roseville Electric Pacific Power City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Utiah Public Utilities City of Lodi Electric Utility Total Other TOTAL Cumulative Total Total by Year Range	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 0 0 4	0 0 0 0 9 0 4 0 0 33	0 0 0 0 9 0 4 0 0 51	141 0 0 150 9 10 4 0 4 490	2 19 165 53 19 5 6 4 845	275 2 19 379 115 19 5 14 4 1,220	59,807	
City of Burbank Water and Power City of Anahem Public Utilities City of Redding Electric Utility City of Glendale Water and Electric City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Juán Public Utilities City of Lodi Electric Utility Total Other TOTAL Cumulative Total PG&E SCE	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 0 0 4	0 0 0 0 9 0 4 0 0 33	0 0 0 0 9 0 4 0 0 51	141 0 0 150 9 10 4 0 4 490	2 19 165 53 19 5 6 4 845	275 2 19 379 115 19 5 14 4 1,220	59,807	
City of Burbank Water and Power City of Anahem Public Utilities City of Redding Electric Utility City of Glendale Water and Electric City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Alameda Power and Telecom City of Lodi Public Utilities City of Lodi Electric Utility Total Other Total by Year Range PG&E SCE SDG&E SDG&E	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 7 37 1981- 1989 2,698 Energy (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 0 0 4	0 0 0 0 9 0 4 0 0 33	0 0 0 0 9 0 4 0 0 51	141 0 0 150 9 10 4 0 4 490	2 19 165 53 19 5 6 4 845	275 2 19 379 115 19 5 14 4 1,220	59,807	
City of Burbank Water and Power City of Anahem Public Utilities City of Redding Electric Utility City of Redding Electric Utility City of Riverside Public Utilities City of Riverside Public Utilities City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Utah Public Utilities City of Lodi Electric Utility Total Other TOTAL Cumulative Total Total by Year Range PG&E SCE SDG&E SMUD	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 0 0 4	0 0 0 0 9 0 4 0 0 33	0 0 0 0 9 0 4 0 0 51	141 0 0 150 9 10 4 0 4 490	2 19 165 53 19 5 6 4 845	275 2 19 379 115 19 5 14 4 1,220	59,807	
City of Burbank Water and Power City of Anahem Public Utilities City of Redding Electric Utility City of Glendale Water and Electric City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Lameda Power and Telecom City of Lodi Public Utilities City of Lodi Electric Utility Total Other TOTAL Cumulative Total Poä&E SCE SDC&E SDC&E SDC&E SMUD LADWP	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 0 0 4	0 0 0 0 9 0 4 0 0 33	0 0 0 0 9 0 4 0 0 51	141 0 0 150 9 10 4 0 4 490	2 19 165 53 19 5 6 4 845	275 2 19 379 115 19 5 14 4 1,220	59,807	
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utility City of Redding Electric Utility City of Glendale Water and Electric City of Riverside Public Utilities City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Ukinh Public Utilities City of Lodi Electric Utility Total Other TOTAL Cumulative Total Total by Year Range PG&E SCE SDG&E SMUD	37 37 1981- 1989 2,698 Energy (15,316 6,905 3,700	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 1,242 1,328	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 2,713	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 4,530	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 311 5,180	0 0 0 0 0 0 0 0 0 0 0 0 799 5,980	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 4 0 0 4 7,379	0 0 0 0 9 0 4 0 0 33 1,970 9,349	0 0 0 0 9 9 0 4 0 0 51 2,622 11,971	141 0 0 150 9 10 4 0 4 490 6,742 18,713	2 19 165 53 19 5 6 4 845 14,316 33,029	275 2 19 379 115 5 14 4 1,220 26,778 59,807	59,807	
City of Burbank Water and Power City of Anahem Public Utilities City of Redding Electric Utility City of Rendelale Water and Electric City of Riverside Public Utilities City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Lodi Electric Utility Total Other TOTAL Cumulative Total Total by Year Range PG&E SCE SDGAE SMUD LADWP The Rest of the State	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 1,293 2,635	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 4 2,639	0 0 0 0 0 0 0 0 0 0 0 0 2,698	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 7 7 2,730	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 4,530	0 0 0 0 0 0 0 0 0 0 4,869	0 0 0 0 0 0 0 0 0 0 5,180	0 0 0 0 0 0 0 0 0 0 0 7 99 5,980	0 0 0 0 0 0 0 0 0 0 0 0 5 15 6,494	0 0 0 0 0 0 0 4 4 0 0 4 885 7,379	0 0 0 0 0 9 9 0 4 4 0 0 33 3 1,970 9,349	0 0 0 0 0 9 9 0 4 4 0 51 2,622 11,971	141 0 0 150 9 10 4 4 90 6,742 18,713	2 19 165 53 19 5 6 4 845 14,316 33,029	275 2 19 379 115 19 5 14 4 1,220 26,778 59,807	59,807	
City of Burbank Water and Power City of Anahem Public Utilities City of Redding Electric Utility City of Glendale Water and Electric City of Reverside Public Utilities City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Lodi Electric Utility Total Other TOTAL Cumulative Total Total by Year Range PG&E SCE SDG&E SMUD LADWP The Rest of the State	00 00 00 00 00 00 00 00 00 00 00 00 00	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 2,730	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 1,301 4,530	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 799 5,980	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 4 0 0 0 4 885 7,379	0 0 0 0 9 9 0 4 0 0 33 1,970 9,349	0 0 0 0 9 0 0 51 2,622 11,971	141 0 0 150 9 9 10 4 0 4 4 90 6,742 18,713	2 19 165 53 19 5 6 4 845 14,316 33,029	275 2 19 379 115 19 5 14 4 1,220 26,778 59,807	59,807	
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utility City of Greeding Electric Utility City of Gendale Water and Electric City of Riverside Public Utilities City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Lidah Public Utilities City of Lodi Electric Utility Total Other TOTAL Cumulative Total Total by Year Range PG&E SCE SDG&E SMUD LADWP The Rest of the State California Energy Commission	37 37 1981- 1989 2,698 Energy (15,316 6,905 3,700	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 1,293 2,635	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 4 2,639	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 2,713	0 0 0 0 0 0 0 0 0 0 0 7 2,730	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 1,301 4,530	0 0 0 0 0 0 0 0 0 0 0 0 0 4,869	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	799 5,980	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 4 0 0 4 885 7,379	0 0 0 0 0 9 0 4 4 0 0 33 1,970 9,349	0 0 0 0 0 9 9 0 4 4 0 0 51 2,622 11,971	141 0 0 150 9 10 4 0 4 4 490 6,742 18,713	2 19 165 53 19 5 6 4 845 14,316 33,029	275 2 19 379 115 19 5 14 4 1,220 26,778 59,807	59,807	
City of Burbank Water and Power City of Anahem Public Utilities City of Redding Electric Utility City of Glendale Water and Electric City of Reverside Public Utilities City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Lodi Electric Utility Total Other TOTAL Cumulative Total Total by Year Range PG&E SCE SDG&E SMUD LADWP The Rest of the State	00 00 00 00 00 00 00 00 00 00 00 00 00	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 2,730	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 1,301 4,530	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 799 5,980	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 4 0 0 0 4 885 7,379	0 0 0 0 9 9 0 4 0 0 33 1,970 9,349	0 0 0 0 9 0 0 51 2,622 11,971	141 0 0 150 9 9 10 4 0 4 4 90 6,742 18,713	2 19 165 53 19 5 6 4 845 14,316 33,029	275 2 19 379 115 19 5 14 4 1,220 26,778 59,807	59,807	
City of Burbank Water and Power City of Renderine Public Utilities City of Redding Electric Utility City of Redding Electric Utility City of Glendale Water and Electric City of Roseville Electric Pacific Power City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Alameda Power and Telecom City of Lodi Electric Utility Total Other TOTAL Cumulative Total Total by Year Range PG&E SCE SDG&E SMUD LADWP The Rest of the State The Rest of the State The Rest of the State Number of Systems	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1,242 1,328 1984 1,328 0 0	1985 1,342 0 0	1,293 2,635	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 4 2,639	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 2,713	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 4,530	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	799 5,980	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 4 0 0 4 885 7,379	1,970 9,349 1999 8,549 800	2000 10,445 1,526 0	141 0 0 150 9 10 4 4 4 90 6,742 18,713	2 19 165 53 19 5 6 4 845 14,316 33,029	275 2 2 19 379 115 19 5 14 4 1,220 26,778 59,807	59,807	
City of Burbank Water and Power City of Anaheim Public Utilities City of Redding Electric Utility City of Rendelme Water and Electric City of Riverside Public Utilities City of Roseville Electric Pacific Power City of Alameda Power and Telecom City of Ikane Power and Telecom City of Lodi Electric Utility Total Other TOTAL Cumulative Total Total by Year Range PG&E SCE SDG&E SMUD LADWP The Rest of the State California Energy Commission California Public Utilities Commission California Public Utilities Commission	37 37 1981- 1989 2,698 Energy (15,316 6,905 3,700	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 4 2,639	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 2,713	0 0 0 0 0 0 0 0 0 0 0 7 2,730	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 1,301 4,530	0 0 0 0 0 0 0 0 0 0 0 0 0 4,869	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	799 5,980	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 4 4 0 0 4 885 7,379	0 0 0 0 0 9 0 4 4 0 0 33 1,970 9,349	0 0 0 0 0 9 9 0 4 4 0 0 51 2,622 11,971	141 0 0 150 9 10 4 0 4 4 490 6,742 18,713	2 19 165 53 19 5 6 4 845 14,316 33,029	275 2 19 379 115 19 5 14 4 1,220 26,778 59,807	59,807	

Grid-Connected PV Systems Installed in California

YEAR

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003**	Total	
Program																									
Sacramento Municipal Utility District	0	0	0	- 1	0	- 1	0	٥	٥	0	0	6	56	124	113	62	17	37	211	134	306	Ō	68	1,136	
California Energy Commission*	0	0	0	,	0	,	0	0	0	0	0	0	0	0	0	02	17	41	180	215	1,238	2,226	2,871	6.771	
Pacific Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	127	125	650	1,309	1,695	٠,,,,	3,933
Southern California Edison	0	0	Õ	0	Õ	0	0	o o	0	Õ	0	0	Õ	0	o o	0	0	14	47	59	311	585	712		1,728
San Diego Gas and Electric		0	ō	0	0	0	ō	0	ō	0	ō	0	ō	ō	ō	ō	0	0	6	31	275	332	457		1,101
Bear Valley Electric		0	0	0	0	0	0	0	0	0	0	0	0	0	ō	0	0	0	0	0	2	0	7		9
Los Angeles Department of Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	488	488	
California Public Utilities Commission*																					0	15	77	92	
Pacific Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	47		56
Southern California Edison		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	23		26
San Diego Gas and Electric		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6		8
***Southern California Gas Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1		2
Pre-1998	2	2	4	4	6	16	0	1	4	1	2	-3	-45	-118	-108	-52	-7	37	0	0	0	0	0	-254	
City of Palo Alto Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	6	28	22	16	76	
City of Santa Clara Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	4	1	17	
City of Pasadena Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
City of Burbank Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	3	
City of Anaheim Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	12	16	36	
City of Redding Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
City of Glendale Water and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
City of Riverside Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	2	8	
City of Roseville Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	19	39	
Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
City of Alameda Power and Telecom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
City of Ukiah Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	8	
City of Lodi Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	2	2	4	5	6	17	0	1	4	1	2	3	11	6	5	10	10	115	396	357	1,591	2,309	3,563	8,420	
Cumulative Total	2	4	8	13	19	36	36	37	41	42	44	47	58	64	69	79	89	204	600	957	2,548	4,857	8,420		

NOTES
Numerous utilities have not yet provided the data to determine how many systems were installed per year.

Pre-1998 Row: These numbers were derived by subtracting the total number of systems installed by SMUD each year from the totals contained in Appendix A of the 2001 EPRI Report tilled "California Renewable Technology Market and Benefits Assessment." In some years, there is a negative number. This obviously did not happen. To be consistent with the EPRI data, it was decided to keep the negative number rather than make more assumptions.